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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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08/863,822 05/27/97 SHULMAN M 1001/036

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EXAMINER

SATTIZAHN, B

ART UNIT

PAPER NUMBER

2762

DATE MAILED: 05/05/99

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Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
08/863,822

Applicant(s)
Shulman et al.

Examiner
Brian Sattizahn

Group Art Unit
2762



☒ Responsive to communication(s) filed on February 9, and February 16, 1999

☒ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 1-3 and 5-51 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-3, 5-17, 19-30, and 32-51 is/are rejected.

☒ Claim(s) 18 and 31 is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☒ The proposed drawing correction, filed on Feb 9, 1999 is ☒ Approved ☐ Disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been
☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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DETAILED ACTION

Applicant's Amendments filed on February 9, and February 16, 1999 have been fully considered by the Examiner. Any objections or rejections that are not repeated herein have been withdrawn by the Examiner.

Status of Claims

Claims 1, 3, 5-7, 9, 10, 12-17, 19-30, 32, 33, 35, 36, 39-41, 43, 44 and 47-49 are rejected under 35 U.S.C. 102(b).

Claims 2, 8, 11, 34, 37, 38, 42, 45, 46, 50 and 51 are rejected under 35 U.S.C. 103(a).

Claims 14, 25, 26, 28 and 36-41 are rejected under 35 U.S.C. 112, second paragraph.

Claim 18 and 31 are allowable.

Response to Arguments

1. Applicant's arguments with respect to Claims 1-3 and 5-20 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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3. Claims 14, 25, 26, 28 and 36-41 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 14, lines 6-7, the phrase "and from at least" is unclear in the context of the claim.

Claim 25 recites the limitation "the representation of the selection" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim.

Claims 26 and 28 recite the limitation "the computer-readable medium" in line 1. There is insufficient antecedent basis for these limitations in the claims.

Claims 36-40 recite the limitation "the partial statement". There is insufficient antecedent basis for these limitations in the claims.

Claim 41 recites the limitation "the incomplete computer programming statement" in lines 5-6. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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5. Claims 1, 3, 5-7, 9, 10, 12-17, 19-30, 32, 33, 35, 36, 39-41, 43, 44 and 47-49 are rejected under 35 U.S.C. 102(b) as being anticipated by Smith, U.S. Patent No. 5,485,618.

With regard to Claim 1, Smith discloses generating a set of programming language statement information relevant to modifying the present programming language statement (see Col. 8, line 54 to Col. 9, line 2, describing the category, type and paste boxes which contain information for modifying or building a program statement in the expression builder), receiving a representation of a selection by the computer programmer from the generated set of programming language statement information (see Col. 9, lines 45-47, describing the terminating of the expression builder to accept a generated dialog by pressing the OK button) and modifying the present programming language statement based at least in part on the selected programming language statement information (see Col. 9, lines 47-49, describing the inserting of valid expressions back into the originating command).

With regard to Claim 3, Smith discloses that the generating step is performed in response to a real-time request by the computer programmer (see Col. 8, lines 18-23, describing that the user can invoke the expression builder by a menu choice).

With regard to Claims 5 and 21, Smith discloses displaying one or more passive assist windows indicating at least a portion of the generated programming language statement information (see Figure 2C, showing the expression builder window) and the displayed one or more passive assist windows include at least a selection menu assist window or an informational

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display assist window (see Figure 2C, showing the expression builder window proximate to the command window and being capable of either a selection menu assist window or an informational display assist window).

With regard to Claims 6 and 7, Smith discloses that the generating step includes displaying a selectable list of items for modifying the present programming language statement (see the paste box in Figure 4A) and that the selectable list of items are displayed in a selection menu assist window (Figure 4A) and having further computer-executable instructions for enabling window control features for the selection menu assist window (see scroll bar used with type and paste boxes in Figure 4A).

With regard to Claim 9, Smith discloses generating an argument list for the present programming language statement (see box 415, Figure 4A showing the proper syntax for the function) and identifying an argument type for at least one argument in the argument list selected from at least one of a group comprised of: a mandatory argument and an optional argument (see box 415 in Figure 4A identifying all the mandatory arguments for the function).

With regard to Claim 10, Smith discloses having further computer-executable instructions for reverse parsing the present programming language statement into a plurality of tokens that each represent an individual component selected from at least one of a group comprised of: an object entity segment and a delimiter (see Figure 5, showing a function call being broken down into tokens), in response to a real time request by the computer programmer (see Col. 11, line 66 to Col. 12, line 1, describing that when the safety net is activated the expression builder works in

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token mode) and distinguishing the plurality of tokens between a procedure call token and any argument token in the argument list and binding the argument list (see Figure 5 and Col. 14, lines 56-67, describing the rules which apply to tokens and require the distinguishing of arguments from function calls).

With regard to Claim 12, Smith discloses a programming language editor having a character position cursor and a randomly positionable pointer (see Col. 6, lines 36-41, describing the cursor and pointer for use with the expression builder), means for partially compiling available ones of a plurality of programming language statements in the computer program (see Col. 7, lines 42-45, describing the giving of immediate feedback of each command entered or in other words partially compiling the statements), means for generating an assist window that contains a set of programming language statement information in a location proximate to the character position cursor, the assist window being selected from at least one of a group comprised of: a selection menu assist window and an informational display assist window (see Figure 2C, showing the expression builder window proximate to the command window and being capable of either a selection menu assist window or an informational display assist window), means for receiving a selection by the user from the set of programming language statement information (see Col. 9, lines 45-47) and means for modifying a present programming language statement based at least in part on the selected programming language statement information (see Col. 9, lines 47-49).

With regard to Claim 13, Smith discloses means for identifying a desired menu item from the selection menu assist window (see Figure 4A showing the highlighting of selections in the

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category, type and paste boxes) and means for replacing a segment of the present programming language statement at a present location of the character position cursor with the desired menu item in response to the means for identifying (see Figure 4B and Col. 11, lines 25-31, describing the inserting of elements at the cursor position).

With regard to Claim 14, Smith discloses means for displaying information in an informational display assist window (see Figure 4A), the information being related to at least one segment of the present programming language statement and from at least one type of a group comprised of: a symbol definition, a defined constant, a procedure call map, and an enumerated list (see the category, type and paste lists in Figure 4A which show the different types of information that can be used by the programmer).

With regard to Claim 15, Smith discloses that the contents of the assist window are automatically updated in response to a change in the current program statement (see Col. 8, lines 58-66, describing the updating of choices in the remaining boxes of the category, type and paste boxes when a choice is made in one of the boxes).

With regard to Claim 16, Smith discloses means for specifying the present programming language statement and means for generating the assist window on a selected one of the plurality of programming language statements in response to a request by the user (see Col. 8, lines 18-23).

With regard to Claims 17 and 30, Smith discloses enabling a programming language editor having a character position cursor (see Col. 6, lines 36-41), continuously-resolving symbolic

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portions of available ones of a plurality of programming language statements into a partial program compilation (see Col. 7, lines 42-45), identifying a present programming language statement and at least one segment of the present programming language statement based on a location of the character position cursor (see Col. 12, lines 18-25, describing the selection of an insertion point in a statement by placing an insertion caret with the cursor), determining a finite set of information related to the present programming language statement and the at least one segment of the present programming language statement based on the partial program compilation, generating an assist window of the finite set of information (see Col. 8, line 54 to Col. 9, line 2), receiving a representation of a selection by the computer programmer from the finite set of information (see Col. 9, lines 45-47) and modifying the present programming language statement to based at least in part on the selected information (see Col. 9, lines 47-49).

With regard to Claims 19, 20 and 32, Smith discloses displaying a selection menu assist window where the present programming language statement is identified as an operator embedded programming language statement (see Figure 2C), displaying an informational display assist window where the present programming language statement is identified as a non-operator embedded programming language statement and the non-operator embedded programming language statement is a procedure call (see Figure 4A).

With regard to Claims 22-29, Smith discloses that the programming language statement is modified in response to the receipt of an indication that a commit key has been activated (see Col. 9, lines 47-49, describing the pressing of the OK key, commit key, to insert the statement

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back into the originating command) and that the representation of the selection is received in response to the activation of a commit key (see Col. 9, lines 45-47, describing that the dialog is accepted in the expression builder by pressing the OK button, commit key).

With regard to Claims 33 and 41, Smith discloses (a) displaying the incomplete computer programming statement (see Col. 8, lines 25-29, describing the highlighting of incomplete statements for editing), (b) proximate to the display of the incomplete computer programming statement, displaying a list of one or more textual programmatic entities (see Figure 2C), (c) receiving a user input selection of one of the displayed textual programmatic entities (see Col. 9, lines 45-47) and (d) adding the selected textual programmatic entity to the displayed statement (see Col. 9, lines 47-49).

With regard to Claims 35 and 43, Smith discloses (e) receiving user input specifying a supplement command, and wherein step (b) is performed in response to step (e) (see Col. 8, lines 29-34, describing different ways of invoking the expression builder).

With regard to Claim 36, Smith discloses that step (b) displays textual programmatic entities that can validly be included in the partial statement (see Col. 3, lines 58-59, describing that only valid choices are presented in the paste box).

With regard to Claims 39 and 47, Smith discloses that the partial statement is a partial assignment statement identifying a variable to which a value is to be assigned, and wherein the identified variable has a type, and wherein the type has possible values, and wherein step (b)

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displays possible values of the type (see Figure 3C, showing in the paste box the values that could be inserted for a particular type).

With regard to Claims 40 and 48, Smith discloses that the partial statement is a partial function call statement identifying a function, and wherein the identified function has one or more parameters, and wherein step (b) displays parameters of the identified function (see box 415, Figure 4A).

With regard to Claim 44, Smith discloses (e) displaying in conjunction with the statement a position indicator indicating a position within the incomplete statement, and wherein step (b) displays textual programmatic entities that can validly be included in the statement at the position indicated by the position indicator (see Col. 8, lines 16-34, describing the starting of the expression builder for an expression).

With regard to Claim 49, Smith discloses a display device displaying an incomplete computer programming statement, the display device further displaying, proximate to the display of the incomplete computer programming statement, a list of one or more textual programmatic entities (see Figure 2C and Col. 8, lines 25-29), an input device that receives user input selecting one of the textual programmatic entities displayed by the display device (see Figure 1A and Col. 9, lines 45-47) and a processor for modifying the incomplete computer programming statement by adding to the incomplete computer programming statement the selected textual programmatic entity (see Figure 1A and Col. 9, lines 47-49).

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Claim Rejections - 35 USC § 103

6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action, paper no. 4.

7. Claims 2, 8, 34, 38, 42 and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith as applied to Claims 1, 33 and 41, respectively, above, and further in view of Layman, U.S. Patent No. 5,263,174.

With regard to Claim 2, Smith does not specifically disclose that the generating step is automatically performed in response to a change in the current program statement. However, Layman discloses the generating and displaying of a list of selectable choices in response to the user typing in letters (see Figure 3, and Col. 4, lines 8-14, describing the displaying of matching options in response to entered fragments). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to use the displaying technique for matching words of Layman with the expression builder of Smith in order to have a quick and simple way of entering terms without having to type the entire word.

With regard to Claim 8, Smith does not specifically disclose replacing at least a portion of the present programming language statement with one of the list items in response to an input command by the computer programmer. However, Layman discloses the selecting and entering of a word from a list of selectable choices containing all complete matches to the letters entered by the user (see Col.1, lines 55-59, describing the selecting of a desired word from the list of

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matches). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to use the displaying technique for matching words of Layman with the expression builder of Smith in order to have a quick and simple way of entering terms without having to type the entire word.

With regard to Claims 34 and 42, Smith does not specifically disclose (e) receiving user input entering the incomplete programming statement, and wherein step (b) is performed in response to step (e). However, Layman discloses the generating and displaying of a list of selectable choices in response to the user typing in letters (see Figure 3, and Col. 4, lines 8-14, describing the displaying of matching options in response to entered fragments). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to use the displaying technique for matching words of Layman with the expression builder of Smith in order to have a quick and simple way of entering terms without having to type the entire word.

With regard to Claims 38 and 46, Smith does not specifically disclose that the partial statement includes a portion of a symbol, and wherein step (b) displays complete symbols in which the portion of a symbol is contained. However, Layman discloses the generating and displaying of a list of selectable choices containing all complete matches to the letters entered by the user (see Figures 1a-1d, and Col. 2, lines 30-39, describing the displaying of matching words in response to entered fragments). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to use the displaying technique for matching words of Layman

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with the expression builder of Smith in order to have a quick and simple way of entering terms without having to type the entire word.

8. Claims 37 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith as applied to Claims 33 and 41, respectively, above, and further in view of Frid-Nielsen, U.S. Patent No. 5,740,444.

Smith does not specifically disclose that the partial statement includes an object identifier, and step (b) displays members of an object identified by an object identifier. However, Frid-Nielsen discloses a program statement with an object identifier and a browser window showing all the members of the object (see Figure 6B). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to use object information browsing window of Frid-Nielsen with the expression builder of Smith in order to be able to quickly and easily identify and select a member of object for use in an expression that is being constructed by a user.

9. Claims 11, 50 and 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith.

With regard to Claim 11, Smith discloses generating an informational display assist window based on an argument list (see box 415 in Figure 4A) and highlighting a present argument within the argument list that corresponds to a present location within the present programming language statement (see Col. 11, lines 39-54, describing the methodology for filling in parameters

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in an argument list). Smith also inherently discloses the identifying of all mandatory arguments in an argument list (see Col. 10, lines 12-14, describing that the system attempts to validate an expression which would inherently involve the identifying of all mandatory arguments for an expression). Smith does not specifically disclose the distinguishing of optional arguments in the argument list. However, it is well known in the art that arguments in an argument list that are not mandatory would therefore be distinguishable as optional arguments. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to identify the non-mandatory arguments in an argument list as the optional arguments as is known in the art and then present that information to the user in order to permit the user to more quickly prepare function calls and inform the user of the arguments required to make the expression valid.

With regard to Claims 50 and 51, Smith discloses the receiving of a hot key for invoking the expression builder (see Col. 8, lines 41-43) but does not specifically disclose that the hot key is the keystroke combination (Ctrl-Space). However, it is very well known in the art to use the keystroke combination (Ctrl-Space) for invoking commands or other procedures. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to use the well known keystroke combination (Ctrl-Space) to invoke the expression builder of Smith as a matter of design decision.

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Allowable Subject Matter

10. Claims 18 and 31 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Van De Vanter discloses token based program editing. Yamada et al., Saint-Laurent and Layman disclose techniques for completing partial words. Berry et al. and the Microsoft article disclose techniques for selecting a choice from several choices.

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 308-9051, (for formal communications intended for entry)

Or:

(703) 308-1396, (for informal or draft communications, please label

“PROPOSED” OR “DRAFT”)

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Sattizahn whose telephone number is (703) 305-3891. The examiner

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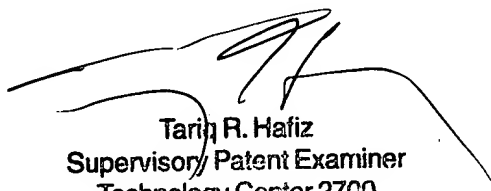
can normally be reached on Monday-Thursday from 7:15am to 4:45pm. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tariq R. Hafiz, can be reached on (703) 305-9643. The fax phone number for this Group is (703) 305-1396.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-3900.

ATS
bts

April 30, 1999



Tariq R. Hafiz
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